DoD Software Domains and their Impacts on SW Acquisition

Network Cybersecurity Software Architecture

Infrastructure Systems

- Real Time Data Half-Life
- Mix of COTS/GOTS HW/SW
- Key SW Function is Network Performance
- Cybersecurity Design
- Cloud or Dedicated Servers and Processors
- Transport Layer
- Infrastructure Systems (e.g., Routing software, Enterprise Cloud Services (e.g., JIE))

Defense Business Systems (DBS)

- Not Real Time Data Half-Life
- ERP HW/SW Architecture
- Key SW Function is Privacy
- Cybersecurity Design
- Real time transactions

Modeling & Simulation (M&S) Systems

- Not Real Time Data Half-Life
- Mix of COTS/GOTS HW/SW architecture
- Example: High-Level Architecture (HLA)
- Key SW Function is validated Model
- Cybersecurity Design
- All Systems can use M&S prototypes to train our troops, discover requirements, design and save money.

Cybersecurity Systems

- Real Time Data Half-Life
- Mix of COTS/GOTS HW/SW architecture

Mission Systems

- Real Time Data Half-Life
- GOTS HW/SW Architecture
- Key SW Function is Safety
- Cybersecurity Design
- Special O/S

M&S

C4ISR Systems

- Near Real Time Data Half-Life
- Key SW Function is Cybersecurity
- Cybersecurity Design
- Mix of COTS/GOTS HW/SW Architecture

Cybersecurity Systems (Con't)

- Key SW Functions support Confidentiality, Integrity and Availability
- Security Controls adopted from NIST SP 800-53 based on Risk Assessment

Note: Mission Systems include weapons and mission support equipment (e.g., aircraft); All software systems have embedded software/firmware today.